

DIURNAL ABOVEGROUND ACTIVITY BY THE FOSSORIAL SILVERY LEGLESS LIZARD, *ANNIELLA PULCHRA*

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Anniella pulchra is a limbless, fossorial lizard. This species occurs from Antioch, California, to northern Baja California, and is often found on dune formations and in sandy habitats where it typically can be captured by raking the soil under bushes (Miller 1944). It can also be found in several low, coastal mountain ranges (Stebbins 1985), and its range extends into the San Joaquin Valley and to the edge of the Sonoran Desert in eastern San Diego County (Klauber 1932, Jennings and Hayes 1994). It seems to prefer moist soils (Miller 1944) where it is able to drink (Fusari 1985). Because of its fossorial habit, *A. pulchra* is rarely found moving aboveground, but it sometimes can be found on the surface at dusk or in the evening (Stebbins 1985). Here we report the previously unrecorded finding of a single *A. pulchra* moving aboveground during the middle of the day.

On 27 April 1995 we were driving on Crocker Springs Road heading northeast over the southern end of the Temblor Mountains. This road is unpaved over the Temblors, and we found 1 *A. pulchra* on a hard-packed section of the road. The location was at 769 m (2500 ft) in San Luis Obispo County, approximately 1.5 km west of the county boundary with Kern County. The lizard, an adult male 140 mm snout-vent length (217 mm total length), was found at approximately 1425 h.

The day was partly cloudy and the air temperature when the lizard was found was about 24°C. Although the road is not steeply inclined at the location, the surrounding topography traversed by this section of the road is a steep hillside of about a 45-degree slope. Dominant vegetation on the hillside is alkali goldenbush (*Haplopappus acradeniis*), and no sandy soil occurs near the location where we found the lizard. The lizard was stretched out on the road,

which it probably was crossing when we saw it. Unfortunately, we ran over the lizard with our vehicle and were not able to watch its movement after we found it. We salvaged the body and deposited it in the museum of the California Academy of Science (specimen #CAS201173, taken under California Department of Fish and Game permit #1111). Besides the injuries we inflicted on the specimen, there were no other signs of injury or obvious infestations by parasites. This is the first observation we know of showing that *A. pulchra* sometimes makes aboveground movements during the day.

Midday aboveground activity of *A. pulchra* appears to be a rare behavior. It is possible that this lizard has narrow physiological tolerances that often prevent surface activity, particularly in full sun. *A. pulchra* has a lower preferred body temperature than most other lizards (Bury and Balgooyen 1976), and its requirement for moist soil and free water has been known for almost a century (Coe and Kunkel 1907). We found this lizard active at an air temperature of about 24°C, which is consistent with its preferred thermal range of 24–25°C (Bury and Balgooyen 1976). Limited surface activity, especially away from plant cover, may also be due to predator avoidance. Because limbless lizards are adapted for burrowing, their ability to move quickly aboveground is limited (Gans 1975). These physiological and behavioral constraints likely limit the aboveground activity of *A. pulchra* to short durations and distances.

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